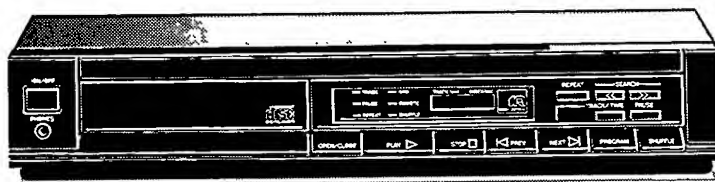




CONSUMER ELECTRONICS

PHILIPS



CD 480 / CD 482

(GB)	Compact Disc Player
(F)	Lecteur de Disques Compacts
(D)	Compact Disc-Spieler
(NL)	Compact Disc-Speler
(E)	Reproductor 'Compact Disc'
(I)	Lettore di Compact Disc
(DK)	Compact Disc-Afspiller
(S)	Compact Disc-Spelare
(SF)	Compact Disc -Soitin

INTRODUCTION

The Compact Disc system is a major step forward in the sphere of audio technology. By employing the most sophisticated digital and optical technologies, Compact Disc not only produces the ultimate in sound reproduction, it also offers unprecedented ease of operation, with rapid access to every track on the disc and the possibility of programming.

Remote control

The only difference between the Compact Disc players CD 480 and CD 482 is that the former is supplied *without* and the latter *with* remote control. The CD 480 is however adapted for remote control. This allows it to be operated remotely if it is connected to a PHILIPS HiFi-system with remote control, or if use is made of the remote control receiver EM 2200, available as an accessory, and one of the transmitters RC 771, RC 772 or RC 773.

In addition to its own remote control system, the CD 482 also offers the possibility of remote control via a PHILIPS HiFi-system.

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INSTALLATION

CHECKING THE POWER SUPPLY SETTING (Fig. 1)

- Check that the type plate on the rear of your player indicates the correct supply voltage.
- If your mains supply voltage is different, consult your dealer or our Service Organisation.

REMOVING THE TRANSIT CLAMPS (Fig. 2)

The two red transit clamps on the bottom lock the play mechanism to protect it during transportation.

- Turn the player upside down.
- Turn the clamps anti-clockwise and remove them from the player.
- Store them in the recesses provided.

If you wish to transport the player, reinsert the clamps and rotate them clockwise until they lock in position.

INSERTING AND REPLACING THE BATTERIES IN THE REMOTE CONTROL (Fig. 3, CD 482 only)

- Open the battery compartment.
- Insert the two batteries according to the diagram in the compartment.
- Replace the cover.

The life of the batteries is around one year. Remove them when they are flat or when you are not intending to use the remote control for some time. In this way you will prevent damage to the remote control by possible battery leakage.

For replacement only use batteries of the type R03, UM4 or AAA.

SITING THE COMPACT DISC PLAYER

Free-standing

- Always position the player horizontally on a flat, firm surface.
- Allow a free space of at least 3 cm above the player so as not to interfere with the cooling of the player.

In an audio rack

- The player can be sited in any desired position.

Stacked

- Site the player preferably at the bottom or at the top.
- Never position the player directly on top of a high-power amplifier, as such an amplifier gives off a substantial amount of heat.

Warning

Never allow the player to stand for long periods in direct sunlight or near a heat source.

CONNECTIONS (Fig. 4)

a **RC5 IN/OUT**: for a remote control system.

Use this connection for:

– Connecting up the equipment when you are incorporating the player in a PHILIPS HiFi-system with remote control.

– Connecting the remote control receiver EM 2200.

b **OUT L R**: for the connecting cable to the amplifier.

- Insert a red plug into the 'R' socket (right-hand channel) and the other plug into the 'L' socket (left-hand channel).

- Insert the two other plugs into the corresponding sockets of the CD or AUX input of your amplifier. You can also use the TUNER or TAPE IN connection, but *never* the PHONO input. This is not suitable for Compact Disc reproduction.

c Connection for the mains lead.

OPERATION

EXPLANATION OF KEYS ETC. (Fig. 5)

- 1 ON/OFF key**
 - › For switching on and off.
 - 2 PAUSE LED**
 - › Lights up when the player is in the pause mode.
 - 3 TRACK LED**
 - › Lights up when you switch on the player.
 - › Indicates that the display is showing the track numbers and any index numbers of the disc.
 - 4 REMOTE LED (CD 482 only)**
 - › Lights up briefly when the REM CONTROL eye receives a command from the remote control.
 - 5 time LED**
 - › Lights up during the display of the playing time of a track or the disc.
 - 6 MULTIMODE CD LED DISPLAY**
 - › Informs you about the functioning of the player.
 - › Displays details from the disc contents list.
- See also: 'The information on the display'.
- 7 REM CONTROL eye (CD 482 only)**
 - › Receives the signals from the remote control.
 - 8 REPEAT key**
 - › For repeating a disc or a programme.
 - 9 << SEARCH >> keys**
 - › For fast search to a particular passage during play. ('<<' backwards, '>>' forwards.)
 - 10 PHONES socket**
 - › For connection of headphones.
- See also: 'Listening with headphones'.
- 11 OPEN/CLOSE key**
 - › For opening and closing the disc tray.
 - 12 REPEAT LED**
 - › Lights up when you repeat a disc or programme.
 - 13 SHUFFLE LED**
 - › Lights up when you play a disc in random order.
 - 14 PLAY key**
 - › For starting play.
 - › For returning to the beginning of a track.
 - 15 STOP/CM key**
 - › For stopping play (STOP).
 - › For erasing a programme (CM = Clear Memory).
 - 16 PREV and NEXT keys**
 - › For selecting a previous or a later track during play.
 - › For selecting the track number you want play to begin with.
 - › For selecting track numbers when compiling a programme.
- ('PREV' from high to low, 'NEXT' from low to high.)
- 17 TRACK/TIME key**
 - › For selecting between track number and playing time indication.
 - 18 PROGRAM key**
 - › For storing track numbers in a programme.
 - › For erasing track numbers from a programme.
 - › For checking the programme.

19 PAUSE key

- › For briefly interrupting play.
- › For holding play at the start of a disc, track or passage.

20 SHUFFLE key

- › For playing all tracks on a disc in random order.

Remote control (CD 482 only)

The keys of the remote control have the same function as the corresponding ones on the player. For the best reception of its signals you should aim the remote control as directly as possible at the REM CONTROL eye. The REMOTE LED lights up briefly when this eye receives a command.

If the siting of the player does not allow direct reception of the signals, you may connect the EM 2200 as remote control receiver.

THE INFORMATION ON THE DISPLAY (Fig. 6-13)

Each Compact Disc has, along with the music, a list of contents detailing the numbers of the tracks, the playing time of each track and the total playing time of the disc. The player always scans this first and stores it in its memory in order, for instance, to provide information via the display.

On/off indication (6)

When the player is switched on, the '—' indication lights up. It goes off again when the player is switched off.

'PLAY' indication (7)

When the tray is closed either by hand or by pressing PLAY, the 'PLAY' indication appears and will remain on until the player has finished scanning the contents list and begins playing.

Track number indication (8)

Under 'TRACK' the display shows the number of the track which is being played. The TRACK LED lights up.

Index number indication (9)

The figures under 'INDEX' are the index numbers. They will only change if the track is subdivided with the aid of index numbers.

Elapsed playing time indication (10)

If you press the TRACK/TIME key, the display will show under 'min' and 'sec' the elapsed playing time from '0:00' of each track. The time LED lights up.

Number of tracks indication (11)

If the tray is closed by pressing OPEN/CLOSE, the '—' indication flashes until the contents list of the disc has been scanned. The display then shows the number of the tracks on the disc under 'TRACK', for example '16'.

Total playing time indication (12)

If you close the tray by pressing OPEN/CLOSE and press TRACK/TIME, the display will show the total playing time of the disc under 'min' and 'sec', for example '62:13'.

Error indication (13)

If you make a mistake, the indication 'Err' (for Error) will appear briefly.

SWITCHING ON AND OFF (ON/OFF)

Switching on

- Press ON/OFF.
- › The TRACK LED and the '--' indication light up.

Switching off

- Press ON/OFF again.
- › All lights are extinguished.

LOADING AND UNLOADING THE DISC (OPEN/CLOSE)

Loading (Fig. 14-16)

- Open the disc tray by pressing OPEN/CLOSE.
- Insert the disc into the tray *printed side up*.
- To close the tray:
 - Press the front of the tray lightly or press PLAY if you wish to simply play the disc.
 - Press SHUFFLE if you wish the disc to be played in random order.
 - Press OPEN/CLOSE if you wish to start with a track number other than the first one or you wish to compile a programme.

If 'Err' appears after the tray is closed, this means that you have loaded the disc upside down or it is dirty, badly scratched or faulty, for example warped. 'Err' also appears if you close an empty tray by hand, by pressing PLAY or SHUFFLE.

Unloading

- Open the tray by pressing OPEN/CLOSE.
- Hold the disc in same way as when loading.
- Store the disc immediately in its holder. This prevents soiling and damage.
- Close an empty tray by pressing OPEN/CLOSE. Avoid leaving the tray open, to prevent dust from entering.

CHANGING TO PLAYING TIME INDICATION (TRACK/TIME)

After switching on, the display always gives the track number indication.

- Press TRACK/TIME if you wish instead to see the playing time.
- Press TRACK/TIME again to return to track number indication.

The track number indication returns automatically if the disc is stopped or the tray is opened.

PLAYING THE ENTIRE DISC (PLAY)

- Close the tray by hand or by pressing PLAY.
 - › 'PLAY' appears on the display.
 - › Play starts as soon as the first track number appears on the display as '1:01'.
 - › At each following track the track number jumps on.
 - › After the last track the disc stops.
- The display shows the number of tracks on the disc.

If you have selected playing time indication, you will see '1:00' appear briefly first. Play now starts at the moment that the elapsed playing time of the first track is displayed. With each following track any preceding pause is first counted off before the display of the playing time starts again at '0:00'.

GOING BACK TO THE BEGINNING OF A TRACK (PLAY)

- Press PLAY.
- › The track starts again from the beginning.

SELECTING ANOTHER TRACK DURING PLAY (NEXT or PREV)

Selecting a following track

- Press NEXT until the desired track number appears on the display.
- › Play is interrupted when the key is released.
- › The selected track begins to play a few moments later.

If you press NEXT while playing the last track, 'Err' appears to remind you that there is no next track and playing of the last track continues. If the player is in the repeat mode, then play continues with the first track.

Selecting a previous track

- Press PREV until the required track number appears on the display.
- › Play is interrupted when the key is released.
- › The selected track begins to play a few moments later.

If you press PREV while playing the first track, 'Err' appears to remind you that there is no previous track and playing of the first track continues. If the player is in the repeat mode, then play continues with the last track.

SEARCHING FOR A PARTICULAR PASSAGE DURING PLAY (<< SEARCH >>)

- Hold << SEARCH down to search backwards to the beginning.
- Hold SEARCH >> down to search forwards to the end.

As soon as the key is released play restarts at once. The length of time for which you hold the key down determines the search speed:

- the first three seconds relatively slowly;
- after approx. four seconds slightly faster;
- the highest speed is reached after approx. seven seconds.

At the first two speeds the sound of the disc remains audible, although accelerated. When searching by ear it is therefore advisable to release the key as soon as the sound disappears. If you have pressed PAUSE before you started the search, you will hear nothing.

As soon as you reach the beginning of the first track, 'Err' appears. Play will resume there as soon as you release the key. If you reach the end of the last track, 'Err' will also appear. If you then release the key, play will resume a few seconds before the end of the disc.

BEGINNING WITH A TRACK NUMBER OTHER THAN THE FIRST

(NEXT or PREV and PLAY)

- Close the tray by pressing OPEN/CLOSE.
 - › The highest selectable track number appears on the display.
- Press NEXT or PREV until the required track number appears. If you require the highest number, you must still press PREV once.
- Press PLAY.
 - › Play will start from the selected track.

PLAYING THE DISC IN RANDOM ORDER (SHUFFLE)

- Close the tray by pressing SHUFFLE.
 - › 'PLAY' appears on the display.
 - › The SHUFFLE LED lights up.
 - › All the tracks on the disc are played in a sequence to be determined by the player.
 - › When all the tracks have been played the disc stops.
 - The SHUFFLE LED goes out.
 - The display shows the number of tracks on the disc.

During play you can return to a track which has already been played by pressing PREV. If you press NEXT you are selecting any one of the following tracks.

You can stop random order play at any time by pressing SHUFFLE again. The remainder of the disc is then played in the normal sequence.

By pressing REPEAT you can repeat random order play. The player then always begins with the same track, but otherwise changes the sequence every time the disc is repeated.

BRIEFLY INTERRUPTING PLAYBACK/HOLDING PLAY AT THE START OF A DISC, TRACK OR PASSAGE (PAUSE)

To briefly interrupt playback

- Press PAUSE.
 - › The PAUSE LED lights up.
 - › The sound stops but the disc continues to spin.
- Press PAUSE again to restart.
 - › The PAUSE LED goes out.
 - › Play restarts at the point where it was interrupted.

Holding play at the start of a disc, track or passage

You can go to any place on the disc and hold it by pressing PAUSE before:

- starting to play the disc;
 - going back to the beginning of a track;
 - selecting another track;
 - searching for a particular passage;
 - beginning with a track other than the first one;
 - playing the disc in random order.
- Press PAUSE again to start play at the chosen place.

REPEATING THE DISC (REPEAT)

- Press REPEAT before or during playback.
 - › The REPEAT LED lights up.
 - Press REPEAT again to stop repeating.
 - › The REPEAT LED goes out.
 - › The disc will play on to the end and then stop.
- Repeating can also be stopped by pressing STOP/CM or OPEN/CLOSE.

STOPPING PLAYBACK (STOP/CM or OPEN/CLOSE)

- Press STOP/CM if you merely wish to stop.
 - › The number of tracks on the disc will appear on the display.
- Press OPEN/CLOSE if you wish to stop and take out the disc.
 - › The indication '- -' will appear on the display.

PROGRAMMING

By programming the player you can play up to 20 tracks of a disc in any required sequence. Each track can however only be selected once. If you exceed the maximum of 20 tracks, 'Err' appears. Programming is only possible when the disc is not playing. Once playing has started it is no longer possible to change the programme.

STORING A PROGRAMME

- Close the tray by pressing OPEN/CLOSE.
 - ↳ The highest track number you can store appears on the display.
- Press NEXT or PREV until the first track number you wish to programme is displayed. If you require the highest number on the disc as the first track, you must still press PREV once.
 - ↳ After the number you will see a flashing colon sign followed by a dash.
- While the colon is flashing press PROGRAM.
 - ↳ The colon sign will stop flashing.
 - ↳ The dash will be replaced by 'P' (for Programme).
 - ↳ That number has been stored.
- Store each of the remaining track numbers required in the same way.

Warning - The colon will flash for approx. 7 sec. each time. If you fail to press PROGRAM within that time, the colon will stop flashing. You can then no longer store the number: instead of the 'P' you will see 'Err' - or the numbers already stored will appear - if you press PROGRAM too late. You can however still store such a missed number by returning to it from the previous or the following number.

For example:

On a disc with 16 tracks you wish to listen to the numbers 7, 3, 9, 5, 12 and 10 in that sequence.

- Load the disc in the tray and close it by pressing OPEN/CLOSE.
 - ↳ A few moments later the display will indicate '16'.
- Press NEXT until the display shows '7: -' and press PROGRAM.
 - ↳ You will then see '7: P'.
- Go back to '3: -' using PREV and press PROGRAM again.
 - ↳ You will now see '3: P'.
- Display the numbers 9, 5, 12 and 10 in turn by pressing NEXT or PREV and store them by pressing PROGRAM after each one.
- ↳ When the last number has been stored the display will show '10: P' continuously.

RECTIFYING A MISTAKE

- Go to another track number by pressing NEXT or PREV.
- Return to the wrong number.
 - ↳ While the colon is flashing press PROGRAM.
 - ↳ The 'P' after the number is replaced by a 'C' (for Clear).
- Store the correct number.

In our example: you have stored '4' instead of '5'. Go to '3' using PREV, return to '4' using NEXT and press PROGRAM. You will then see '4: C'. Now proceed to store '5'.

CHECKING THE PROGRAMME

- You can check the track numbers you have stored by pressing PROGRAM.
 - ↳ All the track numbers appear in the programmed sequence on the display.

In our example: '7: -' '3: -' '9: -' '5: -' '12: -' '10: P'.

If 'Err' appears, this means that no track numbers have yet been stored.

ERASING A TRACK NUMBER FROM THE PROGRAMME OR THE ENTIRE PROGRAMME

- Bring up the track number you wish to erase by pressing NEXT or PREV.
 - ↳ While the colon is flashing press PROGRAM.
 - ↳ The 'P' after the number is replaced by a 'C' (for Clear).
- Press STOP/CM if you wish to erase the entire program.
 - ↳ The display shows the number of tracks on the disc.

PLAYING THE PROGRAMME

- Press PLAY.
 - ↳ Play starts as soon as the first number of the programme appears on the display; in our example: '7:01'.
 - ↳ As play continues the following numbers in the sequence appear.
 - ↳ The entire programme can be displayed by pressing PROGRAM.

All functions of the player can be used during programmed play except for:

- Beginning with a track other than the first one on the programme using NEXT or PREV and PLAY.
- Playing in a random order with SHUFFLE.

Searching for a particular passage is limited to within the track being played. When either end of the track is reached 'Err' appears.

When STOP/CM is pressed or when all the tracks of the programme have been played, the disc stops, but the programme remains stored.

The programme will be erased when you open the tray. It will also be erased if you press STOP/CM twice in succession *during playback*.

ADDITIONAL INFORMATION

LISTENING WITH HEADPHONES (PHONES)

Connect headphones with a 6.3 mm jack plug and an impedance between 8 and 1000 ohms to the PHONES socket.

The sound level you hear is dependent on the impedance of the headphones and the signal level on the disc itself.

CARE OF THE DISCS

Although both sides of a disc are protected by a special coating, it is still advisable to treat the discs with care:

- Never leave discs lying around, put them back in their holders immediately after use.
- Never write on the printed side!
- Do not attach any stickers on that side.
- Keep the shiny surface of the disc clean. Use a soft lint-free cloth and always wipe the disc in a straight line from centre to edge. You may breathe lightly on the disc first.

The cleaning set SBC 3540, available separately, is a useful accessory for cleaning your discs. It contains a protective support, a special disc cleaning cloth and a bottle of cleaning fluid.

Warning - Cleaning agents for conventional records are not suitable for cleaning a Compact Disc. Nor may detergents or abrasive cleaning agents be used.

PLAYER MAINTENANCE

A chamois leather slightly moistened with water is sufficient for cleaning the player. Do not use cleaning agents containing alcohol, spirits, ammonia or abrasives.

The disc tray should be kept free of dust with a dry cloth.

TECHNICAL DATA

Typical Audio Performance

Frequency range: 2-20,000 Hz

Amplitude linearity: ± 0.1 dB (20-20,000 Hz)

Phase linearity: $\pm 0.7^\circ$ (20-20,000 Hz)

Dynamic range: > 86 dB (20-20,000 Hz)

Signal-to-noise ratio: > 93 dB (20-20,000 Hz)

Channel separation: 94 dB (1 kHz)

Total harmonic distortion: 0.016% (1 kHz)

Wow and flutter: quartz crystal precision

D/A conversion: quadruple oversampling (176.4 kHz) with digital filter and two 16-bit D/A-converters

Audio output level: $2 V_{rms}$

Impedance PHONES socket: 8-1000 ohms

Power supply

Mains voltage and frequency: see the type plate on the rear of the player

Power consumption: 15 W approx.

Safety requirements: IEC

Cabinet

Material/finish: metal and polystyrene with decorative trim

Dimensions (w x h x d): 420 x 80 x 300 mm

Weight: 3.5 kg approx.

Subject to modification

This Compact Disc player complies with radio interference requirements as laid down in EC regulations.

FAULTS AND THEIR LIKELY CAUSES

Insufficient familiarity with the combination of a new product and new discs may lead to faults arising during use. These are generally caused by simple errors in operation or external factors.

It is perhaps useful to check the points listed below and where possible remedy these before taking your player for repair.

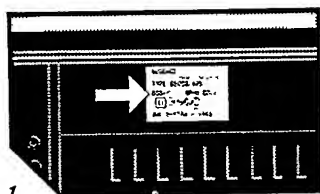
- The transit clamps have not been removed.
- Condensation has formed on the lens of laser due to a dramatic change in temperature. This will disappear automatically after a some time.
- There is a foreign object in the disc tray.
- The disc has not been inserted with the printed side up or there is no disc in the tray.
- The disc is dirty, badly scratched or warped.
- The player has been connected to the PHONO socket of the amplifier.

If the fault remains, try to clear it by switching the player off and on.

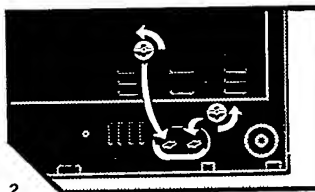
If this also fails to help, do not continue experimenting, but remove the plug from the socket and consult your dealer.

Certain faults may be caused by a disc. In order to help determine the precise cause, take the disc with which the fault occurred with you when you take the player for repair.

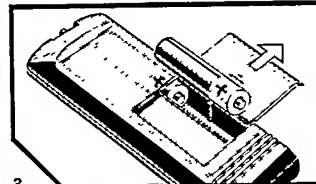
Under no circumstances should you repair the player yourself, as this will invalidate the guarantee!



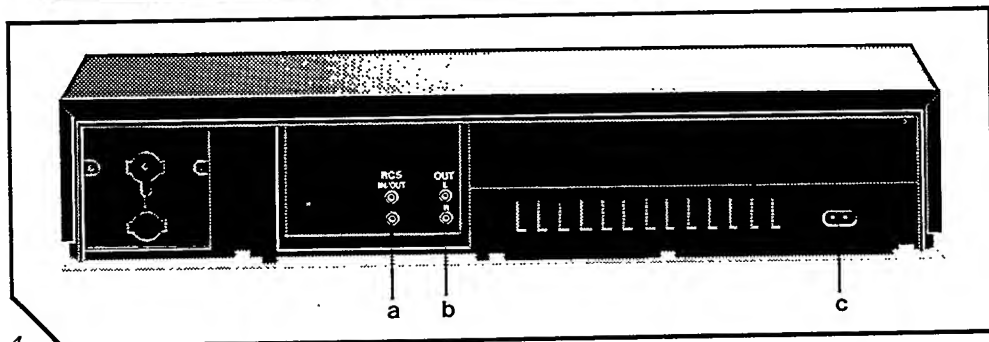
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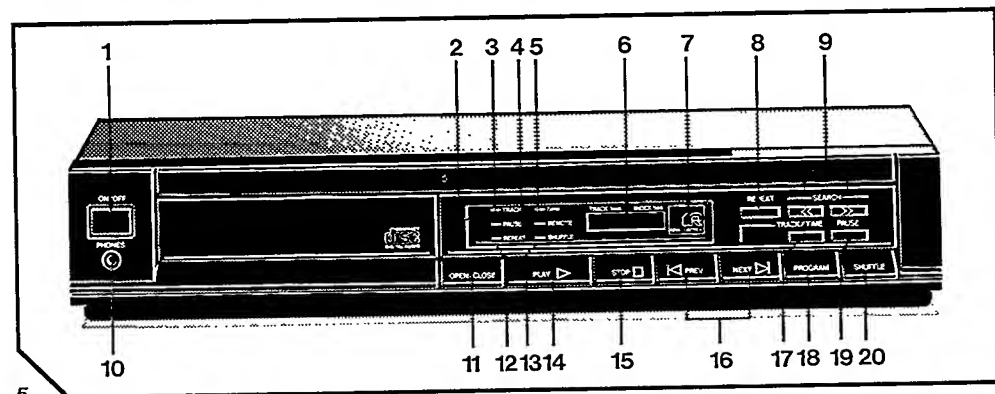
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3



4



5



6



7



8



9



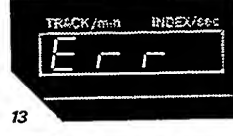
10



11



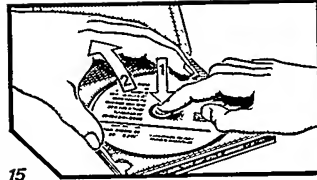
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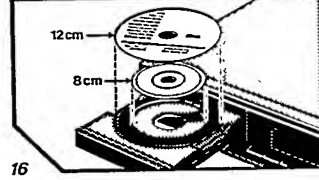
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**CLASS 1
LASER PRODUCT**

